MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

July 24, 1970

TO: All Regional, District and Area Foresters

FROM: Paul R. Flink, Staff Forester, Entomologist

SUBJECT: Summary of Forest Pest Conditions to Date

The following information is compiled from information supplied by Bill Wallner, M.S.U.; Immants Millers, U.S.F.S.; DNR Area Foresters; Keith Johnson, Region I Forest Entomologist; and personal observations.

The RED-HEADED PINE SAWFLY outbreak in Mackinac County north of Engadine, failed to materialize as egg hatching was greatly reduced. Plans to aerially spray this plantation were therefore cancelled. Elsewhere, several small infestations of this sawfly were noted in private plantations on jack pine. One was near Bear Lake in Manistee County, and the other along U.S. 131 near the north county line of Kalkaska County. This is a relatively easy insect to control and young red and jack pine plantations should be watched for signs of build-up.

Dendrotettix quercus is the scientific name of the POST OAK LOCUTS, a grasshopper that feeds on oak trees. It is a strange sight to see these red-legged grasshoppers swarming up and down the oak trees and causing defoliation. At present, the only place I know of them in Michigan is in Lake and Newago counties. They are quite common from Bitely to north of Baldwin, but so far have not caused any more than scattered defoliation. They are capable of stripping the foliage from trees 20 or more feet tall.

The ups and downs characteristic of JACK PINE BUDWORM populations continued this year with a great increase in northern Lower Michigan. Particularly evident is the browning of jack pine in southeastern Grand Traverse, southern Kalkaska near Sharon, Crawford, Montmorency, Oscoda, and Ogemaw counties. In the Upper Peninsula, populations are reported increasing or remaining high on the Garden Plains of Delta county, and northern Luce county. It is decreasing on the Panola Plains of Iron county, and Mackinac county. In Alger and Baraga counties an overall very light infestation is present.

In northern Luce county, defoliation of the new growth by the budworm was preceeded by the JACK PINE SAWFLY feeding on the old needles and has resulted in trees dying. Keith Johnson is studying this area intensively and his observations will be reported later.

FROST in late June severely damaged red pine plantations, particularly those growing in low-lying areas in northern Lower Michigan. Trees up to 8 feet had all new growth killed in some plantations. Particularly severe damage was observed in Antrim, Kalkaska, Ogemaw, Otsego and Crawford counties. The frost damage, coupled with Scleroderris pine canker has severly damaged plantations of red pine in southeastern Antrim County and other areas. Frost on the Mackinac State Forest killed the new growth on spruce that were under 8 feet tall. Many of these trees had also suffered from winter burn earlier in the year.

Of interest, in regard to Scleroderris canker, was a pruning study established about four years ago in Otsego County. The lower branches of red pine were pruned off to a height of 3 feet. These trees show no signs of Scleroderris as compared to adjacent trees with abundant flagging present on the low branches. As these pines are over 10 feet tall, it is not expected that the disease will kill the trees with the infected lower branches. However, the pruning has certainly greatly reduced the inoculum that would be available to spread the disease to nearby young plantations.

A light infestation of EUROPEAN PINE SHOOT MOTH persists on the Kingston Plains area of Alger County even though weather conditions are severe. Heavy snow cover during the winter probably protects the larvae and enables them to survive on the lower branches.

The CHERRY SCALLOP SHELL MOTHS that were a problem in the Newberry area as a nuisance, and the browning of cherry by larval feeding has abated this year. Browning of cherry, particularly the leaves in the top part of the crown, has become noticeable in parts of Lower Michigan, including Lake, Kalkaska, Clare and Otsego counties. While the identification of the insect responsible for the Lower Michigan cherry defoliation has not been determined yet, it is quite likely the cherry scallop shell moth.

One additional oak tree has died this year at the OAK WILT infection near Interlochen. Throughout northern Lower Michigan, oak mortality has been high last year and many trees failed to leaf out this year. This is not due to oak wilt but probably a combination of past oak leaf roller defoliation, frost damage to developing leaves, and other factors, not yet determined.

PINE PITCH MIDGE damage is common in northern Lower Michigan on jack pine. There appears to be a resistance factor present as some trees are heavily flagged with 3 to 4 inch dead branch tips, while adjacent trees are not injured. At the base of the dead tips small resin globs can be seen. The samll orange maggot feeds in these globs.

In northwestern Lower Michigan red pine trees up to 30 feet or more in height show dead new growth of laterals. Some of the dead tips curl over and some remain straight. About 6 to 8 inches of the new growth has been killed. Here again, the exact species has not been determined but there is two distinct types of damage. A caterpillar similar to the Zimmerman pine moth has killed some of the tips. The centers of the twigs have been pretty well eaten and the dead tip can be easily crushed. Some of the other tips have been killed by a bark beetle resulting in a definite pitch tube at the base of the dead portion, and a more solid dead tip that is not easily crushed.

Red pine plantations severely damaged by the Saratoga spittlebug last year were reported on Consumers Power Company land north of Lake City, in private plantings near Sharon in Kalkaska county, and in state plantings in Alpena, Crawford and Wexford counties.

SADDLED PROMINENT larvae in maple stands in Manistee and Benzie counties have prompted control studies by Bill Wallner at M.S.U. The concern is not with trees loss as this is not expected, but with the harmful effect that the defoliation could have on next springs maple syrup production.

RED-HUMPED OAKWORM larvae were observed in Newaygo county. As of July 21, they were only 1/4 inch long and feeding in the characteristic pattern of a row of caterpillars, side by side eating the under surface of the oak leaves. No population estimates were made but it is anticipated that light defoliation will be noticeable as the caterpillars become full grown in a few weeks. These insects have been periodically abundant in this area causing concern by the resort and summer cottage residents.

Paul R. Fluke

PRF:gjw
7/24/70
#5200

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

INTEROFFICE COMMUNICATION

September 14, 1970

TO: All Regional, District, and Area Foresters

FROM: Paul R. Flink, Staff Forester - Entomologist

SUBJECT: Summary of Forest Pest Conditions to Date

Early summer conditions were summarized in letter of July 24.

Bugs a-plenty! This is the only way to characterize the summer of 1970. Leaf miners, caterpillars, sawflies, weevils -- you name it, we had it this year. And the calls and letters from the public have been pouring in. You have probably all had your share of them this year.

Probably the two main causes for public concern were the saddled prominent and the red-humped oakworm and its relatives. During mid-summer the SADDLED PROMINENT was in outbreak numbers in southwestern Benzie County, northwestern Manistee County, and a part of Chippewa County. The outbreak that occurred two years ago in Mackinac and Luce counties remained at a low level. Complete defoliation of hardwoods occurred on more than a thousand acres in Benzie and Manistee counties and was particularly noticeable because of the rolling hills where the defoliation was visible for many miles.

Bill Wallner of the Department of Entomology at Michigan State University conducted some aerial spray tests to determine the effectiveness of Sevin, Dylox, and a bacterial insecticide. The results of this will be available later on this fall. Bill was most concerned about the effects of the defoliation on maple syrup production and was trying to find a control method for this reason.

Unfortunately, a news article quoting the local county agent caused a lot of concern among the people reading it. The article appeared quite widely in Lower Michigan and said that the saddled prominent was the most severe threat to Michigan's hardwood forests since the Dutch elm disease. It also stated that the saddled prominent was a new pest to Michigan, having been blown into the state three years ago from Minnesota. It continued by stating that the insect has no natural enemies.

An informational leaflet is being prepared by Bill Wallner on this insect and you will receive copies when it is available.

The second major defoliator of hardwoods that is still chewing away on oaks is the RED-HUMPED OAKWORM. It is particularly abundant in Muskegon, Lake, Newaygo, Manistee, Mason and Manistee counties. Populations were so heavy that the oaks were completely stripped before the caterpillars were

two-thirds grown. As a result, the caterpillars dropped from the trees and were crawling on everything looking for more oak leaves. This led to many erroneous reports of the caterpillars eating wood, fences, and many other things. An outbreak of the same insect occurred in many of the same places in the late 1950's. That outbreak collapsed,with little apparent effect on the trees.

Mixed in with the red-humped oakworms are a number of other caterpillars that can be commonly found, including the yellow-necked caterpillar, variable oak caterpillar, and at least two kinds of tussock moth caterpillars.

Based on previous infestations of this insect,we do not expect any severe losses of trees, and therefore have not advocated spraying of forest areas. However, these insects cause a considerable economic loss to resort and motel operations in the infested areas, and spraying around these areas would often be justified. Even summer and permanent residents in infested areas would almost have to control the caterpillars if they want to use their yards during the infestations. In addition to the caterpillars themselves being a problem, the droppings are so thick that they sound like rain.

A close relative of the red-humped oakworm, the ORANGE-HUMPED MAPLEWORM is also causing widespread defoliation of maple and other hardwoods in Emmet, Mackinac, and Luce counties, It looks very much like the oakworm except that the mapleworm has 3 black stripes on its back and the oakworm has 5 stripes. A large area of northern hardwoods is being defoliated in Emmet County north of Harbor Springs. Because of the rolling nature of the topography, the defoliated hillsides are very obvious. In some areas in Mackinac County where defoliation has been heavy in the recent past, there is almost none now. Elsewhere, there is a general light defoliation, with a few heavy spots. An additional area of defoliation occurs in eastern Alger County, where about 1,000 acres are affected.

An ASPEN LEAF MINER has rather suddenly appeared in western Upper Peninsula, and has caused considerable browning of aspen stands. I have seen this insect on the south end of the Baraga Plains several years ago, but this is the first time I have seen it in outbreak proportions over a large area. As with the other insects of this type, the defoliation by itself is not serious, but repeated over a number of years, it can make the trees more susceptible to other insects and diseases.

After 15 years or more of relative dormancy, a few years ago the BIRCH SKELETONZIER has agin started to be abundant enough to cause browning of birch foliage. In the early 1950's, this insect defoliated almost every white birch tree in northern Michigan, Wisconsin, Minnesota and Ontario. It is again building up and I think that we can look forward to an increasing attack by this insect in the next year or two. Here again, forest-wide spraying is not justified but control on shade trees and ornamentals may be necessary to stop the nuisance of the dropping caterpillars. They are 1/4 to 3/8 inches long,and soon will be spinning cocoons. The cocoons are elongated, white, ribbed, and can be found attached to leaves, houses, etc.

While the number of FALL WEBWORM nests was about the same this year as last, they were quite plentiful in many areas. While noticeable, the

damage done to the trees is insignificant. They and their droppings stay in the webs so are not a problem as are many other defoliators.

As usual, the JACK PINE BUDWORM was causing widespread defoliation of jack pine, but as usual, some areas are increasing and others are declining in intensity. The major shift has been a lowering in populations in the Upper Peninsula and a great increase in northern Lower Michigan. The outbreak that had occurred on the Mackinac State Forest in Mackinac County has dropped sharply, but past defoliation has resulted in many deformed trees with dead tops.

As a result of feeding by the jack pine budworm, and particularly the JACK PINE SAWFLY, mortality in mature jack pine stands has occurred in northern Luce County. While the overall extent of the damage is not known at present, some stands appear to be suffering 50% mortality. Fortunately, many of these will be salvaged, although the loss of jack pine trees along the shores of some lakes will reduce the value of the area for recreation.

Of major interest and concern is the upsurge in SPRUCE BUDWORM populations. This insect caused widespread defoliation and mortality of spruce and balsam in Michigan in the early 1900's, but with the exception of an outbreak in Keweenaw County about 1946-1952, the insect has been relatively scarce. No defoliation has been apparent until a year or so ago in southern Emmet County. However, this year, the population has exploded, with defoliated balsam common through much of northern Lower Michigan and the Upper Peninsula. The reduced market for balsam is certainly compounding this problem. The other important factor is the balsam-hardwood and balsam-aspen stands, where until the balsam was over-topped, were not conducive to budworm build-up. Now, the balsam is pushing through the hardwoods, making conditions suitable for the budworm.

After several years of low numbers, the WALKINGSTICK appears to be on the increase in Ogemaw County.

APHID damage was reported as severe to aspen sprouts on the Mishwabic State Forest.

SCLERODERRIS PINE CANKER damage was increasingly apparent in northern Schoolcraft County, with high mortality reported in 1959, 1960 and 1961 plantations. In some of these plantations, it is expected that most of the trees under 3 feet in height will be lost.

Damage to red pine plantations from 1969 feeding of the SARATOGA SPITTLEBUG was particularly evident in Crawford, Kalkaska, Dickinson, Mecosta, Ogemaw counties on private as well as state land.

Also causing defoliation or damage in localized areas were: LINDEN LOOPER in southeastern Antrim County; a leaf-roller on maple in Mackinac County, BIRCH LEAF MINER in western Upper Peninsula and elsewhere; OAK TWIG PRUNER in central Lower Michigan and eastern Charlevoix County.

I have no actual idea of the total amount of forest land that has been defoliated to a noticeable extent this past summer, but I think that if

the areas defoliated by the larch sawfly, jack pine budworm, jack pine sawfly, spruce budworm, aspen leaf miner, red-humped oakworm, orange-humped mapleworm, saddled prominent, European pine sawfly, red-headed pine sawfly, white grubs, etc. were all added together, the total would be well over a million acres.

If you haven't sent in your August insect situation report, please do so.

Carl R Fellin

PRF:zp
#5221